

**DECLARATION OF PERFORMANCE**

In accordance with annex III of regulation (EU) 305/2011  
No: 3202-TBE

1. Unique identification code of the product-type:	<b>3202-tbe-200010</b>	<b>PN 10, Ø20</b>
	<b>3202-tbe-250010</b>	<b>PN 10, Ø25</b>
	<b>3202-tbe-320010</b>	<b>PN 10, Ø32</b>
	<b>3202-tbe-400010</b>	<b>PN 10, Ø40</b>
	<b>3202-tbe-500010</b>	<b>PN 10, Ø50</b>
	<b>3202-tbe-630010</b>	<b>PN 10, Ø63</b>
	<b>3202-tbe-750010</b>	<b>PN 10, Ø75</b>
	<b>3202-tbe-900010</b>	<b>PN 10, Ø90</b>
	<b>3202-tbe-110010</b>	<b>PN 10, Ø110</b>
	<b>3202-tbe-200000</b>	<b>PN 20, Ø20</b>
	<b>3202-tbe-250000</b>	<b>PN 20, Ø25</b>
	<b>3202-tbe-320000</b>	<b>PN 20, Ø32</b>
	<b>3202-tbe-400000</b>	<b>PN 20, Ø40</b>
	<b>3202-tbe-500000</b>	<b>PN 20, Ø50</b>
	<b>3202-tbe-630000</b>	<b>PN 20, Ø63</b>
	<b>3202-tbe-750000</b>	<b>PN 20, Ø75</b>
	<b>3202-tbe-900000</b>	<b>PN 20, Ø90</b>
	<b>3202-tbe-110000</b>	<b>PN 20, Ø110</b>

2. Intended use/es: **According to Plastics piping systems for hot and cold water installations-Polypropylene (PP)-Part 2: Pipes (ISO 15874-2:2013)**

3. Manufacturer: **KALDE KLİMA ORTA BASINÇ FİTTİNGS VE VALF SAN. A.Ş.**  
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registered trade mark



4. Authorised represententative: **Not applicable**

5. System/s of AVCP: **System 3**

6a. Harmonize standart: **ISO 15874-2:2013-Plastics piping systems for hot and cold water installations-Polypropylene (PP)-Part 2: Pipes**

Notified body/ies: **Initial type testing carried out by TURKISH STANDARDS INSTITUTE-TEST LABORATORIES CENTER**  
**Performed determination of product type under system 3,**

**KALDE KLİMA ORTA BASINÇ FİTTİNGS VE VALF SANAYİ A.Ş.**

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6b. European Assessment Document: **Not applicable**

European Technical Assessment: **Not applicable**

Technical Assessment Body: **Not applicable**

7. Declared performance/s:

#### Physical and Thermal Properties

Properties	Testing	Unit	Values
Density, at 23 °C	ISO 1183	g/cm <sup>3</sup>	0,9
Melt flow index (MFI) 230 °C/2, 16 kg	ISO 1133	g/10 min	0,3
Thermal conductivity at 23 °C	DIN 52612-1	W/m.K	0,23
Coefficient of linear expansion K <sup>-1</sup> average between 0 °C up to 110 °C	DIN 53712	K <sup>-1</sup>	1,5 x10 <sup>-4</sup>
Surface Resistance (ohm)	DIN IEC 60093	Ω	>10 <sup>12</sup>
Deflection temperature under load 1,8 N/mm <sup>2</sup> 0,45 N/ mm <sup>2</sup>	ISO 75A-1, -2 ISO 75B-1, -2	°C °C	49 70
VICAT softening point (1 kg) (5 kg)	ASTM D 1525 ISO 306 DIN 53460	°C °C	130 70
Melting point	DSC	°C	146

#### Mechanical Properties

Properties	Testing Methods	Unit	Values
Tensile stress at yield (23 °C) At 50 mm/min	ISO 527-1,-2	N/mm <sup>2</sup>	25
Tensile strain at yield At 50 mm/min		%	10
Flexural modulus at 23 °C	ISO 527	N/ mm <sup>2</sup>	800
Charpy impact strength (notched) at 23 °C at 0 °C	ISO 179/1eA	kJ/ m <sup>2</sup> kJ/ m <sup>2</sup>	22 4,5
Charpy impact strength (unnotched) (0 C°)	ISO 179	Joule	No break
Hardness (shore D)	ISO 868		60

Properties	Requirement	Test parameters for each test				Testing methods
Internal pressure test	Damage shouldn't occur during the experimental period.	<b>PP – R</b>				EN 1167-1 EN 1167-2
		<b>Hydrostatic stress MPa</b>	<b>Testing temperature °C</b>	<b>Testing time h</b>	<b>Testing sample pieces</b>	
		16,0	20	1	3	
		4,3	95	22	3	
		3,8	95	165	3	
		3,5	95	1000	3	
		Test parameters for all tests				
Type of test		Water-water				
Longitudinal reversion test	≤%2	<b>Factor</b>	<b>Value</b>		ISO 2505	
		<b>Testing temperature °C</b>	135			
		<b>Testing time (h)</b> Thickness<8 mm 8 mm< thickness<16mm Thickness>16 mm	1 2 4			
		<b>Testing sample pieces</b>	3			
Impact resistance test	≤%10	<b>Testing temperature °C</b>	0		ISO 9854-1,ISO 9854-2	
		<b>Testing sample pieces</b>	10			
Melt Flow Index test	difference compared with compound and pipe max %30	<b>Testing temperature °C</b>	230		ISO 1133-1	
		<b>Mass (kg)</b>	2,16			
		<b>Testing sample pieces</b>	3			



8. Appropriate Technical Documentation and/ or Specific Technical Documentation: N/A

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Name and fuction: **Hüseyin YILMAZ, Quality Manager**

Place and date of issue: İSTANBUL -09.08.2016

**Hüseyin YILMAZ**  
Quality Manager  
  
**Kalde Klima**®  
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SERMAYESİ: 500 000 000 TL